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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,088	10/30/2003	Dana Ault-Riche	17102-005001 / 25885-1754	7850

20985 7590 03/22/2006

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EXAMINER	
WESSENDORF, TERESA D	

ART UNIT	PAPER NUMBER
1639	

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/699,088	AULT-RICHE ET AL.	
	Examiner	Art Unit	
	T. D. Wessendorf	1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-134* is/are pending in the application.

4a) Of the above claim(s) *1,5,6,9-17,21-25,29,30,38,41-124,133 and 134* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-4,7,8,18-20,26-28,31-37,39,40 and 125-132* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group II (claims 2-4, 5, 7, 8, 18, 19, 20, 26-40, 121-122 and 124-132) is acknowledged. The traversal is on the ground(s) that the Restriction Requirement as between groups I and II is not properly set forth in the Office Action. For example, claim 25 is alleged to be within group II, but claim 25 is dependent upon claim 1, which is in group 1. Hence, if the requirement is maintained as set forth, then groups 1 and 2 are not restrictable. For example, claim 25 and claim 1 are related as a combination subcombination, which would require two- way distinctness, which is not present as between claim 25 and claim 1. Notwithstanding these errors, applicant has elected group II and amended the claims. This is not found persuasive because the inadvertent inclusion of claim 25 in group II does not indicate that group I and II are not restrictable. Claim 25 inclusion in Group II is regretted, this claim should have been included in Group I.

The requirement is still deemed proper and is therefore made FINAL.

Applicants' election of the species nucleic acids that encode scFvs as the starting library and the scFvs as the

capture agent is acknowledged. Applicants assert that all the elected claims read on the elected species.

Claims 1, 5, 6, 9-17, 21-25, 29-30, 38, 41-124 and 133-134 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions and species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement on 12/19/2006. (Note that claim 2 is drawn to method for evenly distributing nucleic acid molecules and does not recite for a capture agent. Thus, claims containing said capture agent, which requires additional step and agents have been withdrawn from consideration.) See the status of the pending claims, below.

Status of Claims

Claims 1-134 are pending

Claims 1, 5, 6, 9-17, 21-25, 29-30, 38, 41-124 and 133-134 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species and inventions.

Claims 2-4, 7-8, 18-20, 26-28, 31-37, 39-40 and 125-132 are under examination.

Specification

The ***lengthy*** specification has not been checked to the extent necessary to determine the presence of all possible minor errors (typographical, grammatical and idiomatic). Applicant's

cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Information Disclosure Statement

The information disclosure statement filed Aug. 5, 2005 (i.e. WO 05/067980 and PCT applications) fails to comply with 37 CFR 1.98(a)(3) because it does not include a legible copy of each cited foreign patent document which caused it to be listed; and all other information or that portion which caused it to be listed is required. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 2-4, 7-8, 18-20, 26-28, 31-37, 39-40 and 125-132 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time

the application was filed, had possession of the claimed invention.

To satisfy a written description requirement for a claimed genus a sufficient description of a representative number of species by actual reduction to practice or by disclosure of relevant, identifying characteristics, i.e., structure or other physical and/or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the claimed genus. See Eli Lilly, 119 F.3d at 1568, 43 USPQ2d at 1406. A representative number of species means that the species, which are adequately described, are representative of the entire genus.

The specification describes in the detail a method of making a single starting library of nucleic acids that encode scFv using specific tag as the described antigen epitope. However, the disclosure of only one species encompassed within a genus adequately describes a claim directed to that genus only if the disclosure indicates that the applicants have invented species sufficient to constitute the gen[us]. Noelle v. Lederman, 355 F.3d 1343, 1350, 69 USPQ2d 1508, 1514 (Fed. Cir. 2004) (Fed. Cir. 2004). The specification e.g., paragraph [0176]

(see the published US 2004/0209282) provides further description in terms of defining only each of the huge components used in method or general description of the genus claim. It does not describe or correlate the single starting library either by function or structure or other identifying characteristics to the numerous compound libraries included by the genus claim. In a library containing diverse (millions) of genes it cannot readily be ascertained how a given gene is appropriately tagged, absent structure for either the library or tag. Applicants, at the time of filing, are deemed to have not invented species sufficient to constitute the genus by virtue of having disclosed a single species when … the evidence indicates ordinary artisans could not predict the operability in the invention of any species other than the one disclosed. In re Curtis, 354 F.3d 1347, 1358, 69 USPQ2d 1274, 1282 (Fed. Cir. 2004). In biotechnological invention one cannot necessarily claim a genus after only describing a single species. There may be unforeseeable reactions and/or results obtained from species other than those specifically described. This is evident from the specification at paragraph [0389]. It states "……A high diversity of displayed tagged molecules…… can result in missed binders because of concentration effects. If a locus has too low a diversity of tagged molecules, then the concentration of the

variety of displayed molecules can result in falsely positive signals due to the inclusion of molecules which interact weakly with the displayed molecules……." It is also well known in the art as to the vulnerability of the oligonucleotide tags to degradation by the use of modified nucleotides and nucleotide linkages. A written description of an invention involving a chemical genus, like a description of a chemical species, requires a precise definition, such as by structure, formula [or] chemical name of the claimed subject matter sufficient to distinguish it from other materials. University of California v. Eli Lilly and Col, 43 USPQ 2d 1398, 1405(1997), quoting Fiers V. Revel, 25 USPQ 2d 1601m 16106 (Fed. Cir. 1993). See also University of Rochester v. G.D. Searle & Co., 68 USPQ2d 1424 (DC WNY 2003).

Claim Rejections - 35 USC § 112, second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-4, 7-8, 18-20, 26-28, 31-37, 39-40 and 125-132 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly

claim the subject matter which applicant regards as the invention.

The terms "evenly distributing", "order of magnitude" "unique" and "some" in claim 1 are relative terms, which renders the claim indefinite. The terms are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The specification at paragraph [0181] defines, for example, "even distribution of tags" to mean that the diversity of molecules to be tagged is approximately equivalent for each of the tags so that in any collection of tagged molecules on average each tagged molecule is unique. As a result, the diversity of different tagged molecules on the loci (spots in a solid phase array) in each array provided herein is approximately the same (i.e., to within, one order of magnitude, or 0.5 orders of magnitude, or 0.25 orders of magnitude or less). The tolerance for variation in diversity in tags at each locus is a function of the application of the resulting capture systems or arrays. Said definition is ambiguous especially as applied to a genus claim and the Examples disclose only two tags.

The recitation in the preamble of "evenly distributing nucleic acid molecules that encode polypeptide tags among members of a

starting library" is confusing as to whether a method of making or using is intended.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

> Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 2, for example, is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 2-7 of copending Application No. 10/699,144 or claim 60 (original claim) of Application No. 09/910,210. Although the conflicting claims are not identical,

they are not patentably distinct from each other because each of the copending claims is nearly the same as the instant claimed method except worded differently.

Claim 2, for example, is provisionally rejected on the ground of nonstatutory double patenting over the claims of copending Application No. 10/699,088 ('088 application); 10/351,891('891 application); 10341,226('226 application). This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: the instant method is disclosed at paragraph [0176] (see the published application) of the '088 application; paragraph [0026] of the '891 application and paragraph [0022] of the '226 application.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

The instant claimed method is disclosed in each of the disclosure of each of the copending applications above (yet each of these applications has different inventive entity albeit with common assignee. It is confusing as to which inventors invented which subject matter.)

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the

art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2-4, 7-8, 18-20, 26-28, 31-37, 39-40 and 125-132 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Dower et al (5,639,603).

Dower discloses at e.g., col. 9, line 28 up to col. 10, line 38 a method for producing a tagged chemical library as illustrated by the production of a large, highly diverse collection of oligomers, in which each different library member is an oligomer with a unique monomer sequence relative to other library members (although the library will typically comprise duplicate "books"). Such a library or collection may contain, for example, all combinations of X different monomers in a set of monomers assembled into length n oligomers yielding, Xn different compounds. The collection may also contain oligomers having different monomer units at, for example, only one or a small number of positions, while having an identical sequence at all other positions. A method for synthesizing such collections of oligomers typically involves a random combinatorial ("stochastic") approach and the chemical and/or enzymatic assembly of monomer units. One process comprises the steps of: (a) apportioning a plurality of solid supports among a plurality

of reaction vessels; (b) coupling to the supports in each reaction vessel a first monomer and a first tag using different first monomer and tag combinations in each different reaction vessel; (c) pooling the supports; (d) apportioning the supports among a plurality of reaction vessels; (e) coupling to the first monomer a second monomer and coupling to either the solid support or to the first tag a second tag using different second monomer and second tag combinations in each different reaction vessel; and optionally repeating the coupling and apportioning steps with different tags and different monomers one to twenty or more times. Typically, substantially equal numbers of solid supports will be apportioned to each reaction vessel. Those of skill in the art recognize that the same chemical building block can be employed in different coupling steps and that the same chemical building block can be employed in more than one coupling reaction (reaction vessel) of a single coupling step. To visualize the method more readily, one might first consider the stochastic synthesis of an untagged library of all oligomers three residues in length, assembled from a monomer set of three different monomers: A, B, and C. Three aliquots of beads are apportioned among three reaction vessels, and monomer A is coupled to the beads in the first reaction vessel, B is coupled in the second, and C in the third. The beads from all the

reaction vessels are then pooled. The pool contains approximately equal numbers of three different types of beads, with each type characterized by the monomer coupled to the bead. The pool is mixed and redistributed to the separate monomer reaction vessels, each containing A, B, or C as the next monomer to be coupled. Following this coupling reaction, each reaction vessel now has beads with all three different monomers in position one and the monomer contained in each particular second reaction vessel in position 2. All beads are pooled again, producing a mixture of beads each bearing one of the nine possible dimers. The pool is again distributed among the three reaction vessels and coupled to the three different monomers, producing the complete set of all trimers of the three monomers. Dower discloses at col. 37, line 60 up to col. 38, line 30, also a method in which sub-libraries are constructed by fixing one or more of the positions and randomizing the remaining positions. For example, there are 500 pentapeptide sublibraries containing all permutations of 2 fixed positions utilizing 50 building blocks. Each of these sublibraries contains 125,000 compounds. The use of tagged libraries offers a major advantage in ease and sensitivity, but requires modifications in the method of exposing the compound collections to the metabolic activities. Oligomer and other molecular libraries can be constructed in a combinatorial process

and each step encoded with identifying tags. This may be done via a direct linkage and parallel synthesis of the oligomer to the tag. If oligonucleotides are used as the tags, then the complexes will be relatively large but small enough to insert actively into the cells . Once inside, the complexes would be subject to the metabolic machinery of the cells. Upon recovery of the active metabolites from the culture of from lysed cells, the samples are screened and the tags decoded to reveal the precursor compound. Libraries of compounds made by an encoded combinatorial process on beads can be exposed to lysates of e.g., bacteria, fungi and plant cells. See specifically Example 1 t col. 44 up to col. 48. [MPEP 2116.01 states that the combined rejection above is proper when the claims are subject to several interpretations].

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to T. D. Wessendorf whose telephone number is(571) 272-0812. The examiner can normally be reached on Flexitime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (571) 272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

T. D. Wessendorf
Primary Examiner
Art Unit 1639

tdw
3/20/06